

In the Patented Claims:

2 (amended). The apparatus of claim 1, wherein said coded signal is a chirp.

Claim 12, line 1, after "comprising:" begin a new paragraph.

13 (amended). The apparatus of claim 12, wherein said array has a plurality of rows and a plurality of columns each having one of said plurality of control channels associated therewith;

said control signal generating means further including means for generating row and column control signal components; and

wherein each transducer element is uniquely and simultaneously controlled by a combination of the row and column control signal components for that transducer element.

23 (amended). An acoustic imaging apparatus, comprising:
control logic;

a plurality of transducer elements arranged in an array, each coupled to said control logic and capable of transmitting an acoustic signal representative of an electrical transmit control signal propagated from said control logic and generating an electrical receive signal representative of an incident acoustic signal;

means within said control logic for generating an electrical transmit control signal for each transducer element that contains a frequency based coded signal and causing each transducer to emit an acoustic signal representative of said coded signal;

means for modifying the frequency and phase of an electrical receive signal of each transducer element for coherently combining reflected coded signals within the electrical receive signals thereof;

means coupled to said modifying means for decoding the combined reflected coded signals to achieve a time delay base on that coded signal; and

means coupled to said decoding means for generating image data from an output signal therefrom.

In the Reissue Claims:

26 (amended). The apparatus of claim 24, wherein said control circuit includes a control channel for each of said M rows and a control channel for each of said N columns, and wherein the number of control channels is fewer than the number of transducer elements.

33 (amended). The apparatus of claim 30, wherein said filter includes a matched filter.

36 (amended). The apparatus of claim 30, wherein the transducer elements and the control circuit are configured such that the row and column control signals for each transducer element contain an appropriate frequency and phase shift that, when combined with the electric signal corresponding to an incident acoustic signal at that transducer element, modifies the received electric signal in such a manner as to permit the coherent combination of the modified received electric signals from all of said plurality of transducer elements.

37 (amended). The apparatus of claim 30, wherein said control circuit includes a control channel for each of said M rows and a control channel for each of said N columns, and wherein the number of control channels is fewer than the number of transducer elements.